SOME INSECTS INJURIOUS TO CACAO PLANTS IN THE BELGIAN CONGO.

M. Raymond Mayné, the Government Entomologist in the Belgian Congo, has recently made a special study of the insects that live on cacao in that country, and the Belgian Ministry of Agriculture is shortly publishing his report on the subject. The material collected by him comprises a number of species new to science, some of which are described below by various specialists.

All the species dealt with were taken in the Mayumbe district, a region of dense tropical forest, not very far from the coast and lying due north of Boma.

Order COLEOPTERA.

Family MELOLONTHIDAE.

By GILBERT J. ARROW.

Aserica variegata, sp. nov.

Ferruginea, subopaca, fronte, pronoti macula magna tripartita elytrorumque plagis tessellatis viridinigris ; sat longe ovalis, corpore supra et subtus irregulariter albo-setoso, scutelli lateribus elytrorumque basi densius setosis, partibus obscuribus fere nudis, hic et illic dorso squamis nonnullis majoribus ornato ; clypeo grosse et rugose punctato, antice leviter emarginato, fronte et pronoto parce punctatis, hujus lateribus leviter arcuatis, angulis anticis acutis, posticis rectis, elytris profunde striatis, intervallis convexis ; pygidio parce punctato et setoso, linea mediana laevi ; pedibus haud brevibus, tibiis anticis fortiter bidentatis, posticis modice latis.

♂, oculis magnis, clava antennali ad stipitem longitudine aequali.

Long., 6 mm. ; lat. max., 3 mm.

This insect, according to M. Mayné, devours the young and tender leaves of the cacao. I have seen only a single pair. It is one of the group of species called *Lepiserica* by Brenske, but included in *Autoserica* by Péringuey, who has pointed out that no practical means of separating them has been devised. The latter name is also redundant, being synonymous with *Aserica.*

A. variegata is rather elongate in form and decorated like the species of *Euphoresia,* but without a sternal process. The elytra are deeply striated and the alternate intervals are decorated with greenish-black patches, almost bare of the setae with which the remaining surface is sprinkled. The posterior part of the head and the middle of the pronotum are also greenish-black, the latter dark area trilobed behind. In addition to the minute setae there are also broad scales upon the scutellum, in the intervals longitudinally dividing the dark patches upon the elytra, and a small cluster on each side of the middle of the pronotum.

Pseudotrochalus concolor, Kolbe.

This is undoubtedly the insect so-called by Brenske, but the original description is quite inadequate for its certain identification. Its typical form has been well described by Gyllenhal (Schonherr's Synonymia Insectorum) under the incorrect name of *Melolontha versicolor,* F. It is remarkably variable in coloration, but normally red-brown, with narrow black margins and five vague black spots upon the

pronotum, frequently reduced to two placed at the base. The five spots may also coalesce and cover part or the whole of the pronotum, and the elytral border may extend from behind forwards to cover the whole hinder part of the elytra (var. *nigromaculatus*, Brenske), or there may be an intricate dark network. In one specimen the scutellum alone remains pale, in another this and a red spot on each side of the pronotum, and finally, the entire surface may become black.

Triodonta procera, Lansb.

I think this is probably Lansberge's species, in spite of certain inaccordant phrases in the description. It is certainly not nitid and the hairy clothing of the lower surface is distinctly longer, instead of shorter, than that of the upper side, but these discrepancies may perhaps be due to hasty writing.

It is strange that the real significance of the remarkable modification of the mentum described by Lansberge has never been recognised. It is certainly not, as supposed by him, a possibly generic feature characteristic of a few of the species, but is distinctive of the males of nearly all. Like the equally remarkable claw-development in the same sex, it is a prehensile device, its essential feature being the backwardly-directed and extremely strong, close and regularly-arranged spines (generally cleft at the end) with which the enlarged mentum is provided on its outer face.

Family Curculionidae.

By Guy A. K. Marshall, D.Sc.

Systates ramosus, sp. nov. (fig. 1).

Colour varying from black to red-brown, rather thinly and unevenly clothed with grey or buff scales so that the integument is largely exposed.

♂. *Head* dull and shagreened, the forehead almost flat and with a very short deep central furrow, the furrow separating off the rostrum strongly angulate in the middle; along the inner edge of the eye is a row of 5–7 erect flattened white setae. *Rostrum* longer than its basal width, sculptured like the forehead, tricarinate, the central carina rather more distinct than the others and bifid in front, the two lateral ones strongly convergent anteriorly, the sides of the rostrum not falling steeply below them, but forming a continuous transverse curve with the median area; this lateral convexity causes the scrobes to be more sharply delimited behind than usual; the genae broadly dilated. *Antennae* with the scape moderately stout, subcylindrical, of almost the same thickness throughout, slightly curved downwards only at the apical fourth, with rugose longitudinal wrinkles and clothed with subrecumbent broad dark setae and sparse pale scales; the funicle with joints 1 and 2 equal, 3 longer than 4, and 4 to 7 equal. *Prothorax* much broader than long, the sides strongly rounded, broadest well behind the middle, without any apical constriction, but markedly constricted at the base, which is not much broader than the apex, the latter being shallowly sinuate; the upper surface comparatively flat, finely shagreened, usually with a short bare smooth central line, and set with very small and widely separated granules, each bearing a short erect scale-like seta. *Elytra* ovate, broadest at about one-fourth from the base (being there obtusely angulated) and rapidly narrowing thence to the apex; the basal margin abruptly raised and forming a sharp transverse ridge, each external angle being produced obliquely forwards into a broad process, 1·2 mm. long, which is

broadly truncate at the apex, the external angle being extended downwards to a point, while the basal half of the process is dilated into a broadly trianglar sharply pointed tooth, the greatest width of the process being 1 mm. ; the upper surface with regular rows of large, bare and rather transverse punctures ; the intervals scarcely broader than the punctures, smooth and shiny, and each bearing a row of long erect scale-like setae, which are deeply emarginate at the tip ; the scales are small, convex, fluted and almost circular, the apical edge being somewhat flattened. *Legs* stout, without any long silky hairs ; the front tibiae shallowly bisinuate internally

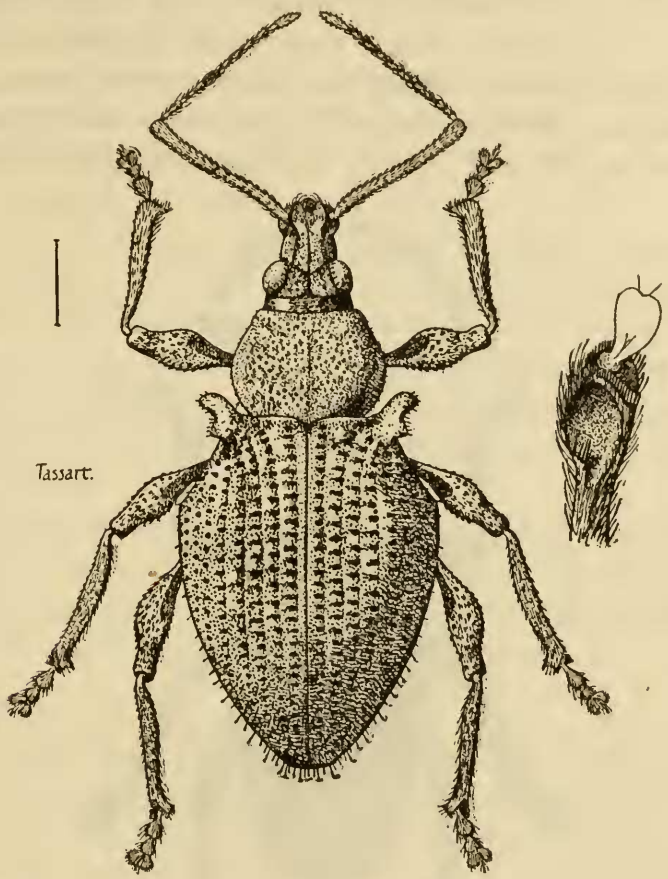

Fig. 1. *Systates ramosus*, sp. n., Mshl., ♂.

and having at the apex on the lower surface a broad deep cup-like cavity, the inner basal margin of which is produced into a short lobe bearing four stout spines, with two others above it ; the mid tibiae with a shallow longitudinal impression on the lower surface at the apex with three short spines on its anterior edge ; the hind tibiae not distorted, the inner surface smooth and flattened almost to the base, its lower edge with small denticulations.

Length, $7\frac{1}{2}$; breadth, $3\frac{1}{2}$ mm.

♀. Differs only as follows :—The elytra are broader and shorter, not nearly so much narrowed posteriorly, the dorsal outline being much more convex and steeper behind ; the apical excavation on the front tibiae is much shallower, and the hind tibiae are not flattened internally, except narrowly in the apical third, both edges being distinctly denticulate.

Length, 6–7 ; breadth, $3\frac{1}{4}$–$3\frac{1}{2}$ mm.

This remarkable species may be readily recognised by the striking basal prominences on the elytra and the cup-like cavities on the front tibiae of the male.

This insect is stated by M. Mayné to occur but rarely, the adult attacking the leaves of full-grown trees.

Systates maynei, sp. nov. (fig. 2).

Colour black, piceous or red-brown, thinly covered with small sub-circular convex fluted grey scales, often having a pale greenish or coppery reflexion.

♂. *Head* separated from the rostrum by an angulated furrow; the forehead almost flat, shiny and faintly alutaceous, with a deep central furrow, which is about equal to one-half the anterior furrow; along the inner orbit of each eye a row of 5–7 erect flattened pale setae. *Rostrum* longer than its basal width, gradually narrowing from the base to the middle and broadly dilated at the genae; the upper surface

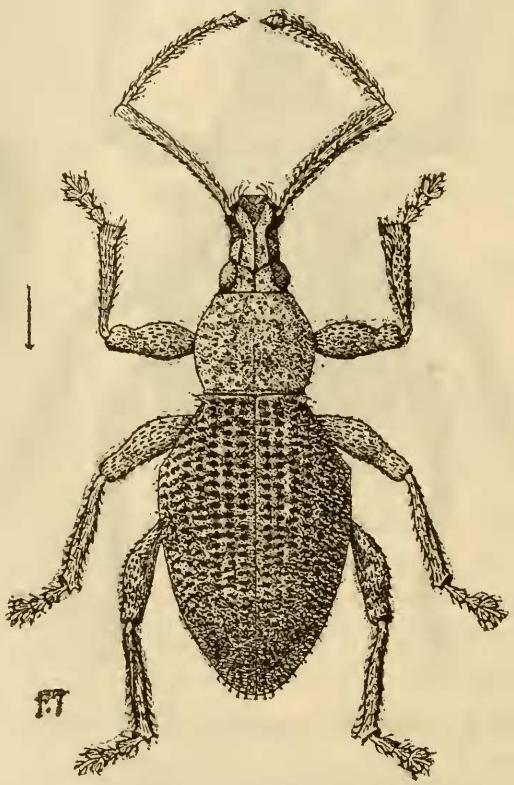

Fig. 2. *Systates maynei*, Mshl., sp. n., ♂.

tricarinate, the median carina bifid at the apex, the outer ones strongly convergent in front; the lateral areas not perpendicular, but sloping gradually outwards, the upper portion of the scrobe being therefore sharply delimited behind by an oblique carina. *Antennae* as described for *S. ramosus*, except that joints 4 and 7 of the funicle are each slightly longer than 5 or 6. *Prothorax* a little broader than long (6 : 5), the sides rather strongly and regularly rounded, broadest about the middle, the apical margin truncate and only slightly narrower than the base; the upper surface, shagreened, usually with an abbreviated shiny central line, and set with sparse small granules, each bearing an erect scale-like seta. *Elytra* ovate, broadest not far from the base and gradually narrowing from there to the apex, the sides being quite straight from the base to the point of greatest width (above the middle of the metasternum);

the basal margin forming a low straight transverse carina, the outer angles of which are produced into a very short sharp point; the upper surface with rows of large bare transverse punctures, the intervals narrower than the punctures and hardly broader than the interspaces between them; each interval with a regular row of dark erect broad apically-emarginate setae. *Legs* stout and without long hairs; the anterior pairs of tibiae normal, shallowly bisinuate internally; the hind pair with the inner face strongly flattened in the apical half, its upper edge being there carinate and the lower edge finely denticulate, and the external apical angle not produced.

Length, $4\frac{3}{4}$–$5\frac{1}{2}$; breadth, $2\frac{1}{2}$–$2\frac{3}{4}$ mm.

♀. The elytra are much more rotund and less narrowed behind, and the very convex dorsal outline is steeper near the apex; the hind tibiae are not flattened internally and are more conspicuously denticulate.

Length, $4\frac{3}{4}$–$5\frac{1}{2}$; breadth, $2\frac{3}{4}$–3 mm.

In general form like a small specimen of *S. fossulatus*, Klb., which has the base of the elytra similarly constructed; but the latter species differs in the following respects:— the rostum is gradually widened from base to apex, the outer dorsal carinae are almost parallel, the first joint of the funicle is distinctly longer than the second, the granules on the prothorax are much larger and shiny, all the tibiae of the ♂ are fringed beneath with long silky hairs, the outer apical angle of the hind pair is produced into a broad acute-angled process, etc.

This weevil is abundant in cacao plantations, being especially injurious to young plants in the nurseries. The injury is caused by the mature insect, which devours the leaves, eating large portions out of them along the edges. Nothing is known as to the early stages of this or the preceding species.

Alcides theobromae, sp. nov. (fig. 3).

♀. Colour shiny black and almost bare above; the prothorax duller, with a transverse lateral band of pale recumbent hairs at the base and near the apex; the elytra with the following markings formed of similar hairs: a very small spot at the shoulder and near the base of interval 2, a spot on interval 4 a little before the middle, an irregular transverse row of spots behind the middle on intervals 2, 4, 6 and 8, and a patch in the pre-apical depression; the lower surface somewhat densely clothed with tawny feathered scales. The markings are evidently very easily abraded.

Head dull, finely aciculate on the vertex, the forehead with shallow confluent punctation and shallowly impressed between the eyes. *Rostrum* about as long as the front femur, moderately stout and almost straight, the dorsal outline straight for three-fourths the length and then sloping gently; the upper surface fairly closely punctured throughout, but less so towards the apex, and without any furrows or carinae, the punctures much larger and longitudinally confluent at the sides on the basal half. *Antennae* stout and black; the funicle with the two basal joints short, 1 longer and thicker than 2, 3–5 subequal and strongly transverse, 6 much longer than 5 and nearly quadrate, 7 hardly as long as the first two joints of the club, the first joint of which is bare and shiny on its basal half. *Prothorax* a trifle shorter than its basal width, broadest at the base, rather strongly narrowed in front, distinctly constricted near the apex, the sides moderately rounded; the dorsal outline very convex, the downward slope of the front half being much steeper than any part of the elytral

slope; the upper surface closely and evenly set with small low shiny granules of various sizes. *Scutellum* transverse, smooth and impunctate. *Elytra* broadest at the shoulders, where they are only slightly broader than the prothorax, and gradually narrowing from there to the apex; the dorsal outline rising very slightly from the base to one-fourth the length, then gradually sloping backwards and becoming steeper in the apical third; the basal lobes longitudinally wrinkled, and a shallow depression involving the bases of striae 1 and 2 behind the scutellum; the striae very shallow on the disk, rather deeper at the sides and apex, the punctures moderately large,

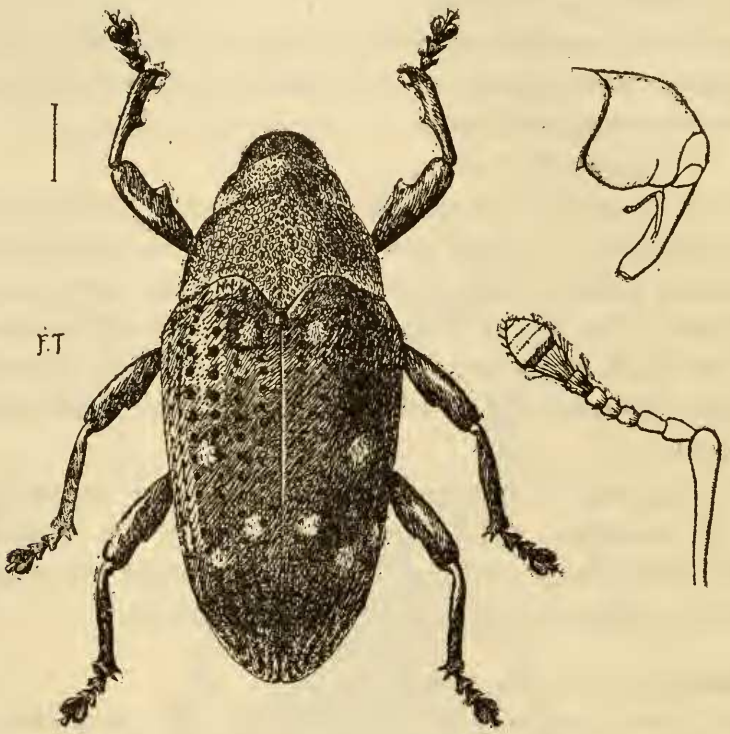

Fig. 3. *Alcides theobromae*, Mshl. sp. n., ♀.

their septa narrower than the intervals, which are smooth and shiny and bear very small scattered punctures, except on interval 1 and the juxta-apical area, which are rather rugosely punctate; a distinct epipleural carina from the hind coxae to the apex, the epipleurae being oblique in front, but quite horizontal at the apex and there bearing coarse confluent punctures. *Legs* moderately stout, all the tibiae with a sharp internal tooth near the apex, the front pair with a broad triangular tooth about the middle, which is represented by a feeble angulation on the middle pair. *Sternum*: the metasternum granulate and with a large prominence on each side in front of the hind coxae.

Length, 8; breadth, 3½ mm.

Very closely allied to *A. cultrirostris*, Thoms., which differs in the following points:— The elytra are mahogany red, the tibiae lack the inner apical tooth, the anterior slope of the prothorax is less steep, and the punctures on the disk of the elytra are much larger, so that their septa are scarcely narrower than the intervals.

The larvae of this weevil bore longitudinal galleries in the small branches of cacao trees; the leaves subsequently turn yellow and the branch dies. The beetle is not as yet sufficiently numerous as to be regarded as an important pest.

Family Lamiidae.

By C. J. Gahan, M.A., D.Sc.

Tragocephala maynei, sp. nov.

T. nobili (Fab.) affinis, sed differt capitis medio haud vittato, elytris prope basin non transversim fasciatis. Capite inter antennas sat lato fere plano, margine antica frontis genarumque et macula pone oculum coeruleis ; prothorace utrinque ante tuberculum lateralem ochreo-fulvo fasciato, basi lateraliter coerulescente ; elytris nigro-velutinis, utrisque maculis quatuor ochreo-fulvis notatis : macula prima ad latus paullo pone humerum, secunda transversa et tertia parva rotunda obliquiter positis pone medium, quarta transversa paullo ante apicem ; macula infra humerum, puncta postero-laterali, et macula minuta ad suturam vix ante apicem coerulescentibus ; corpore inferiore pedibusque coerulescentibus, nigro fasciatis et maculatis ; antennis (♀) paullo pone medium elytrorum transeuntibus, scapo ad apicem angustim cicatricoso ; prosterno sat lato, antice verticali et transversim truncato, mesosterno antice late rotundato ; femoribus brevibus subclavatim incrassatis.

Long., 20 ; lat., 7 mm.

This species is nearly related to *Tragocephala nobilis*, Fab., with which it agrees in general form and structure, the only difference noticeable in this respect being the somewhat broader intercoxal process of the prosternum in the present species. It differs however in markings ; the head is without a median band, the genae and front are bordered below with greyish blue pubescence and there is a patch of the same colour behind each eye ; the prothorax is banded at the sides as in *T. nobilis*, but with the band in front of the lateral tubercle more ochreous or brownish in colour ; the elytra are marked each with four ochreous tawny spots—one at the side a little behind the shoulder, two placed obliquely a little behind the middle, and the fourth transversely a little before the apex ; each has, in addition, a bluish spot below the shoulder, a blue lateral speck at about one-fourth from the apex, and a speck on the suture just before the apex. Body beneath and legs glaucous blue, banded with black.

Exocentrus ortmansi, sp. nov.

Niger sat dense griseo-pubescens, antennis dense setosis quam corpore paullo longioribus, articulis ab 3° cinereo anguste annulatis ; prothorace transverso, spinis lateralibus pone medium positis, retro directis ; elytris nigro-setosis, setis in seriebus octo utrinque ordinatis, interstitiis bi- aut uni-seriatim sed haud regulariter punctatis, punctis post medium evanescentibus.

Long., 6 ; lat., 2·5 mm.

Black, with a rather dense covering of grey pubescence. Antennae a little longer than the body, black with a rather dense fringe of black setae beneath, the joints from the 3rd narrowly ringed with grey at the base. Prothorax with a few scattered black setae, lateral spine placed behind the middle, and directed towards the shoulder of the elytron. The elytra, seen in certain lights, exhibit a faint brownish band behind the middle ; each has eight longitudinal series of black setae, and on the basal half the intervals between the rows of setae are punctured in rather irregular rows, the rows in some parts being double and in others, especially farther back from the base, single.

Order RHYNCHOTA.

By W. L. Distant.

Family Coreidae.

Pendulinus devastans, sp. nov.

Above with the head, pronotum, scutellum and corium ochraceous, thickly darkly punctate; narrow margins to the pronotum and scutellum and the margins and venation to corium pale ochraceous and impunctate; membrane shining bronzy-brown; body beneath and legs pale ochraceous; head beneath and sternum thickly but not darkly punctate, a small shining black spot on each side near outer margins of posterior coxae; tibiae sometimes moderately roseate in hue; antennae reddish-ochraceous, apical joint either paler in hue, or testaceous with the bases and apices paler, basal joint moderately thickened and a little curved outwardly, its apical area somewhat incrassate, first and second joints almost subequal in length, second and third joints slender, second longer than third, fourth incrassate, subequal in length to third; head above centrally longitudinally incised; lateral pronotal angles subprominent; venation of corium robust.

Long., 13; breadth between pronotal angles, 4 mm.

Immature forms.

1st stage.—Head and pronotum fuscous-brown; abdomen above more or less roseate in hue; body beneath and legs ochraceous; antennae strongly incrassate, the third joint distinctly dilated.
Long., 5–7 mm.

2nd stage.—Above more or less pale castaneous, on anterior and posterior margins of fourth abdominal segment, a small rounded protruberance each containing two small shining black tubercles, and another black tubercle on each side near the lateral margins of the segment; antennae as in first stage.
Long., 9 mm.

The perfect insect is allied to *P. carmelita*, Burm., from which it differs by the more robust and differently coloured antennae, absence of the black fasciate markings beneath, etc.*

---

* I add a description of another allied species found in Natal, which is probably also a destructive insect:—

Pendulinus nigromarginatus.

Allied to *P. carmelita*, Burm. and *C. devastans*, Dist., from both of which it differs in having the lateral margins of the pronotum and more than basal half of the sublateral margins of the corium, black; antennae ochraceous, basal joint stoutest and darkest, distinctly curved and considerably longer than the second joint, which with the third joint is slender, fourth joint mutilated; body beneath pale ochraceous; legs and rostrum dark ochraceous; other characters generally as in *P. devastans*.

Long., 11–12 mm.

Hab. Natal, near Durban (*Bell Marley*).